From Theory to Practice: Perceived Outcomes of Master in Health Professions Education Program in Pakistan

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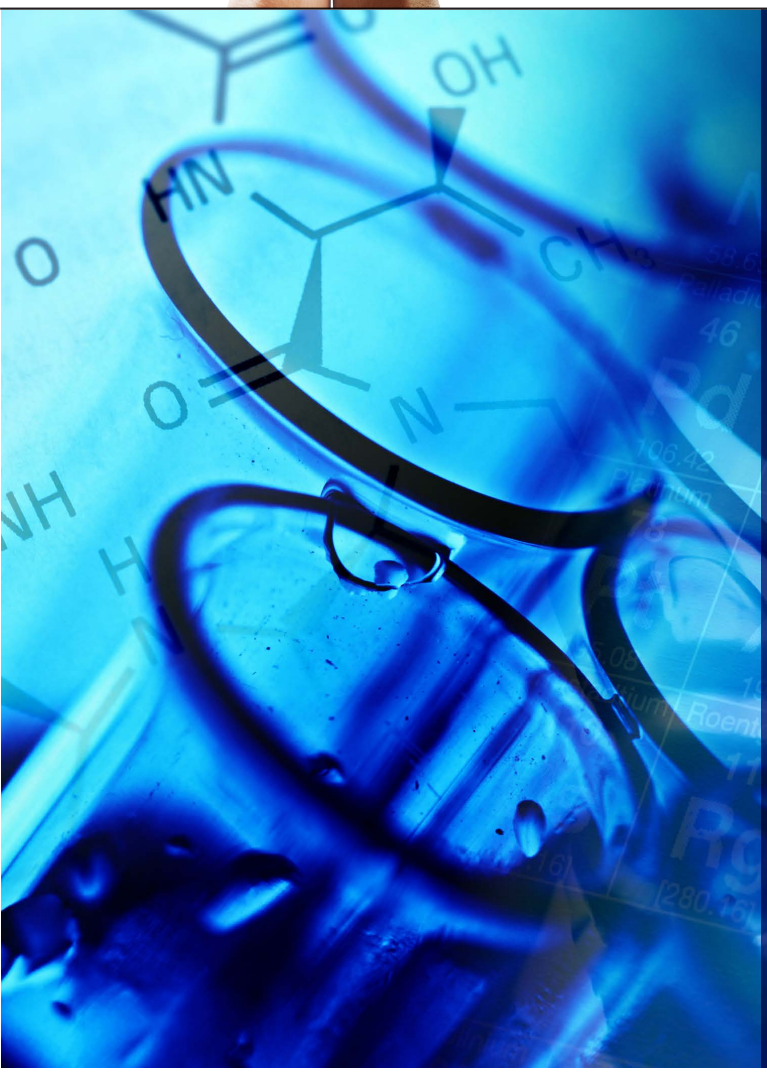

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Introduction

The World Journal of Medical Education and Research (WJMER) (ISSN 2052-1715) is an online publication of the Doctors Academy Group of Educational Establishments. Published on a quarterly basis, the aim of the journal is to promote academia and research amongst members of the multi-disciplinary healthcare team including doctors, dentists, scientists, and students of these specialties from around the world. The principal objective of this journal is to encourage the aforementioned, from developing countries in particular, to publish their work. The journal intends to promote the healthy transfer of knowledge, opinions and expertise between those who have the benefit of cutting edge technology and those who need to innovate within their resource constraints. It is our hope that this will help to develop medical knowledge and to provide optimal clinical care in different settings. We envisage an incessant stream of information flowing along the channels that WJMER will create and that a surfeit of ideas will be gleaned from this process. We look forward to sharing these experiences with our readers in our editions. We are honoured to welcome you to WJMER.

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A WELCOME MESSAGE FROM THE EDITORS

Dear Reader,

It is our great pleasure to present the thirty-second edition of the World Journal of Medical Education and Research (WJMER). This issue brings together a diverse collection of scholarly articles that reflect current innovations, challenges, and opportunities in medical education, health sciences, and public health across global contexts. The contributions highlight the evolving nature of healthcare education, with a particular emphasis on learner development, equity, pedagogy, and improvement at a systems level.

The opening article by Alarar et al. evaluates the effectiveness of an online scientific research methodology course for undergraduate students at Syrian universities. Using pre- and post-course assessments, the authors demonstrate significant improvements in students' research knowledge and skills, underscoring the value of structured e-learning approaches in strengthening research capacity, particularly in crisis-affected and resource-limited settings.

In the following article, Ponce-Garcia et al. explore microaggressions in medical education and reframe them as cumulative, identity-based trauma rather than isolated interpersonal incidents. Drawing on interdisciplinary evidence, the paper highlights the biological, psychological, and educational consequences of chronic identity-based stress and calls for trauma-informed institutional reforms to foster inclusive and supportive learning environments.

The next study by Nojoum et al. examines Iraqi medical students' perceptions of undergraduate breast curricula during the COVID-19 pandemic. Through qualitative interviews, the authors identify key themes related to e-learning, gaps in breast disease education, and barriers to clinical examination. The findings reveal widespread dissatisfaction with current teaching approaches while highlighting structural challenges that were exacerbated by the pandemic.

Farooq et al. investigate the relationship between emotional intelligence and academic performance amongst undergraduate medical students in Pakistan. The study demonstrates a significant positive correlation between emotional intelligence and academic success, suggesting that emotional competencies may play an important role in student performance, stress management, and motivation within demanding medical programmes.

This issue also includes a narrative review by Pratham and Bhalekar on the therapeutic potential of natural compounds in neurotransmitter-related diseases such as Parkinson's and Alzheimer's disease. The authors discuss emerging evidence on compounds such as curcumin and flavonoids, highlighting their neuroprotective and anti-inflammatory properties while emphasising the need for further research to translate these findings into effective clinical applications.

Singha and Majumder focus on medical education for community health workers. The paper synthesises evidence on educational strategies that enhance competencies, motivation, and public health outcomes, advocating for competency-based, digitally-supported, and rights-based approaches to professional development as a foundation for equitable health systems.

The effectiveness of integrative case-based learning and case seminar approaches in teaching pathology laboratory concepts to PharmD students is examined by Garalla and Burgeia in the next study. The findings indicate that active learning strategies significantly improve knowledge acquisition, critical thinking, and clinical preparedness compared to traditional teaching methods, reinforcing the value of learner-centred pedagogies.

In the subsequent article, Ayub Khan et al. assess alumni perceptions of a Master in Health Professions Education (MHPE) program in Pakistan. Using the RE-AIM framework, the study highlights perceived gains in teaching capacity, curriculum development, and leadership skills, while identifying areas for improvement in educational evaluation and mentorship to maximise programme impact across career stages.

The final article by John et al. explores the use of data analytics in improving health education outcomes, presenting a human-centred framework that integrates technology, pedagogy, ethics, and organisational capability. The paper offers practical recommendations for education leaders, demonstrating how analytics can enhance learner engagement, institutional decision-making, and community health literacy when implemented responsibly.

We sincerely hope that you find the articles in this edition educational, thought-provoking, and relevant to your academic and professional interests. Together, these contributions reflect WJMER's ongoing commitment to advancing scholarship that informs practice, promotes equity, and strengthens health education globally.

Ms Karen Au-Yeung
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From Theory to Practice: Perceived Outcomes of Master in Health Professions Education Program in Pakistan

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Abstract:
Pakistan's medical and dental institutions face a shortage of qualified faculty, many of whom lack formal training in curriculum design, instructional strategies, and educational leadership. Masters in Health Professions Education programs aim to address these gaps by preparing clinicians as competent educators. This study evaluated alumni perceptions of the MHPE program at Shifa Tameer-e-Millat University (STMU) to determine its impact on professional development, leadership readiness, and interprofessional collaboration. A descriptive cross-sectional study was conducted among MHPE graduates of STMU, who graduated between 2015 to 2024. Data was collected through a validated questionnaire based on the RE-AIM framework, covering nine domains of educational impact. Responses were rated on a 5-point Likert scale. Seventy-four alumni participated. Participants reported moderate-to-high perceived gains in educational knowledge, teaching capacity, curriculum development, and interprofessional collaboration. Only one domain—enhancement in patient care outcomes—showed a statistically significant difference by duration of healthcare experience ($F(3,70) = 3.95$, $p = .012$; Welch's $F = 5.61$, $p = .004$). Mid-career professionals reported the greatest perceived gains. Alumni perceived the MHPE program as strengthening educational competencies. However, the application of educational evaluation frameworks remained limited. Future program improvements should emphasize authentic evaluation projects, structured leadership mentorship, and career stage–specific support to optimize impact.

Key Words:
MHPE; Health Professions Education; Faculty Development; Leadership; Interprofessional Collaboration; Pakistan

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Introduction

Pakistan's medical and dental institutions face a significant shortage of qualified faculty[1], with many lacking formal trainings in evidence-based curriculum design, assessment, instructional strategies, and educational leadership. Ever growing complexity in healthcare systems mandates health educators to indoctrinate curriculum reform, foster inter professional collaboration and improve patient care through fine quality training systems. Faculty development should be entailed to enrich with expertise in educational theory, research, and leadership ensign with global and national healthcare education needs[2,3,4].

Globally, Master's in Health Professions Education (MHPE) programs have emerged as key pathways for preparing clinicians to become effective educators, leaders, and researchers[5]. These programs aim to enhance teaching competencies, curriculum development skills, and scholarly engagement, enabling graduates to influence both institutional practices and healthcare outcomes[6,7]. The RE-AIM framework—addressing Reach, Effectiveness, Adoption, Implementation, and Maintenance—offers a comprehensive approach to evaluating their impact at individual and system levels[8].

In Pakistan, the number of universities offering MHPE program is growing, yet little is known about the outcomes of these programs. Specifically, there is limited evidence on how graduates apply their training in real-world educational and clinical contexts. We yet need to ascertain whether program benefits vary by career stage. Understanding these outcomes is essential to ensure that MHPE programs meet international standards, deliver value to healthcare institutions, and ultimately improve patient outcome. This study examines alumni perceptions of the MHPE's influence on their professional roles, leadership readiness, and inter professional collaboration, with the aim of identifying strengths and areas for

improvement in program delivery system.

Research Question:
How does a master's degree in health professions education affect leadership, instructional responsibilities, and interprofessional collaboration of graduates across the experience in health care education?

Materials and Methods

Study Design

We conducted a descriptive cross section study to evaluate the impact of MHPE from the participants who graduated between 2015 to 2024. This design was used to have a comprehensive perception tailored in a questionnaire to evaluate the influence of the MHPE and have a deeper understanding of the tangible benefits of MHPE programs and their role in transforming healthcare environments.

Settings

Shifa Tameer-e-Millat University (STMU) has been offering a MHPE since 2015. MHPE-STMU includes four semesters over two calendar years, totaling forty credit hours (thirty-two credit hours of coursework and eight credit hours for research). The goal is to create a health professions education faculty that prioritizes research and educational scholarships.

Data Collection

Questionnaire

The questionnaire was designed by the School of Health Professions Education at STMU, informed by existing literature on MHPE outcomes and the RE-AIM evaluation framework. Items covered nine domains: educational knowledge, instructional design, curriculum development, educational evaluation, teaching capacity, learner/colleague feedback, patient outcomes, inter professional collaboration and leadership preparedness. The initial draft was reviewed by a panel of three experts in health professions education for content validity. Minor adjustments were made to improve clarity and relevance. The instrument was piloted with a sample of five MHPE graduates, who hitherto finished the master's degree and were excluded from this study; feedback confirmed clarity and relevance of items. The questionnaire consists of nines items regarding understanding of educational concepts, impact on medical education practice, frequency of utilizing educational concepts, enhance capacity to instruct, feedback from colleagues, enhancement in patient care outcomes, enhancement in interprofessional.

Recruitment of Participants

All alumni who successfully completed the MHPE program at STMU were included in the study were invited to participate via Whats App messages sent through alumni groups maintained by the department. The invitation included a brief study description, a consent statement, and a secure link to the Google Forms questionnaire. We acknowledge that this recruitment method may have led to self-selection bias, with more engaged or motivated alumni possibly overrepresented in the sample. The respondents were asked to indicate their agreement using a 5-point Likert scale, ranging from strongly agree (5), agree (4), uncertain (3), disagree (2), Strongly disagree (1).

Data Analysis

IBM SPSS Statistics for Windows, Version 22.0 (Armonk, NY: IBM CORP) was used to analyze the data, presenting each item as Means (M) and Standard Deviations (SD). A one-way analysis of variance (ANOVA) was conducted to examine whether the duration of experience in healthcare influenced participants' perceptions of the MHPE program's impact across multiple domains. Graph generations were performed using Pivot Tables and charting tools in the latest version of Microsoft Excel (Microsoft 365). We designated impressions as 'positive' when the corresponding score was above 3.

Ethical Approval

We obtained ethical approval from the institutional review board & ethics committee of STMU (reference number IRB# 615-24, approval date 26-DEC-2024). The participants could withdraw at any time for any reason.

Results

The study comprised 74 participants from diverse academic positions, with the greatest representation from Professors (28.4%) and Assistant Professors (24.3%). The duration of experience in the healthcare sector ranged from 5 to 16 years, with a mean of 11.14 years (SD = 4.67) and a median of 11 years. The most frequently reported duration of experience was 16 years (41.9%), followed by 11 years (23.0%), 5 years (20.3%), and 6 years (14.9%). Mean and Standard Deviation of items of each group based on years of experience in health care education is shown in ***Table 1***. One-Way ANOVA results comparing MHPE Program Impact by duration of experience in health care is shown in ***Table 2***. The Mean, standard deviation, p-values in bold indicate statistical significance at $p < .05$. Welch's F reported where applicable for heterogeneity of variances. Only one item showed a statistically significant difference across the groups: I have observed enhancements in patient care outcomes. The F-statistics for this item were 3.94, with a significant value of 0.01. The robust tests of equality of means also support this finding, with a Welch statistic of 5.60 and a Brown-Forsythia

Item	≤5 yrs Mean (SD)	6–10 yrs Mean (SD)	11–15 yrs Mean (SD)	≥16 yrs Mean (SD)
The MHPE program increased my understanding of educational theories	3.80 (0.86)	3.82 (0.75)	3.82 (0.88)	3.61 (0.84)
The level of confidence in implementing instructional design concepts into healthcare education practice enhanced	3.40 (0.74)	3.55 (0.52)	3.53 (0.80)	3.58 (0.92)
The MHPE program impacted my medical education methodology in curriculum development	3.47 (1.13)	4.00 (0.63)	3.71 (0.85)	3.55 (1.21)
How frequently do you utilize the concepts of educational practice	2.33 (1.23)	3.00 (1.18)	2.53 (1.07)	2.81 (1.22)
I frequently utilize the concepts of educational practice	3.67 (0.72)	4.18 (0.75)	4.18 (0.88)	3.74 (0.93)
The MHPE enhanced my capacity to educate others	3.53 (0.64)	4.18 (0.60)	3.94 (0.66)	3.84 (0.64)
The learners provided positive feedback on educational practice	3.20 (0.41)	3.36 (0.81)	3.59 (0.62)	3.77 (0.50)
I observed enhancements in patient care outcomes	3.80 (0.77)	3.91 (0.94)	3.53 (0.87)	3.65 (0.98)
The MHPE program enhanced Interprofessional collaboration	3.47 (0.83)	3.55 (0.69)	3.41 (0.94)	3.48 (1.15)
The MHPE program has strong overall influence on me as a faculty member	3.40 (1.24)	4.46 (0.82)	3.41 (1.18)	3.84 (1.29)

Table 1: Groups are based on years of healthcare experience: ≤5 years, 6–10 years, 11–15 years, ≥16 years. M = Mean; SD = Standard Deviation.

Item	M	SD	F	p	Welch's F	p (Welch)	Post Hoc Test (Tukey HSD)
The MHPE program increased my understanding of educational theories	3.73	0.83	0.34	.794	0.33	.802	—
The level of confidence in implementing instructional design concepts into healthcare education practice enhanced	3.53	0.80	0.17	.917	0.18	.910	—
The MHPE program impacted my medical education methodology in curriculum development	3.64	1.04	0.67	.573	1.14	.349	—
I frequently utilize the concepts of educational practice	2.68	1.18	0.90	.444	0.85	.479	—
The MHPE enhanced my capacity to educate others	3.89	0.87	1.71	.173	1.81	.165	—
The learners provided positive feedback on educational practice	3.85	0.66	2.34	.081	2.34	.093	—
I observed enhancements in patient care outcomes	3.55	0.60	3.95	.012	5.61	.004	Significant difference between 0–5 yrs and >15 yrs experience groups (p = .028)
The MHPE program enhanced interprofessional collaboration	3.69	0.91	0.48	.696	0.49	.692	—
The MHPE program equipped me for leadership	3.47	0.97	0.04	.988	0.06	.979	—
The MHPE program has strong overall influence on me as a faculty member	3.74	1.23	2.20	.096	3.30	.032	Significant difference between 6–10 yrs and >15 yrs experience groups (p = .041)

Table 2: Note. M = Mean; SD = Standard Deviation; F = F-statistic; p = probability value. Welch's F and p (Welch) are reported where the assumption of homogeneity of variances was violated. Post hoc comparisons were conducted using Tukey's Honest Significant Difference (HSD) test. Bolded p-values (< .05) indicate statistically significant differences among duration-of-experience groups.

statistic of 3.35, both with significance values less than 0.05. This suggests that the observation of enhancements in patient care outcomes varies significantly among individuals with different durations of healthcare experience. For all other items, the significance values were greater than 0.05, indicating no statistically significant difference between the groups.

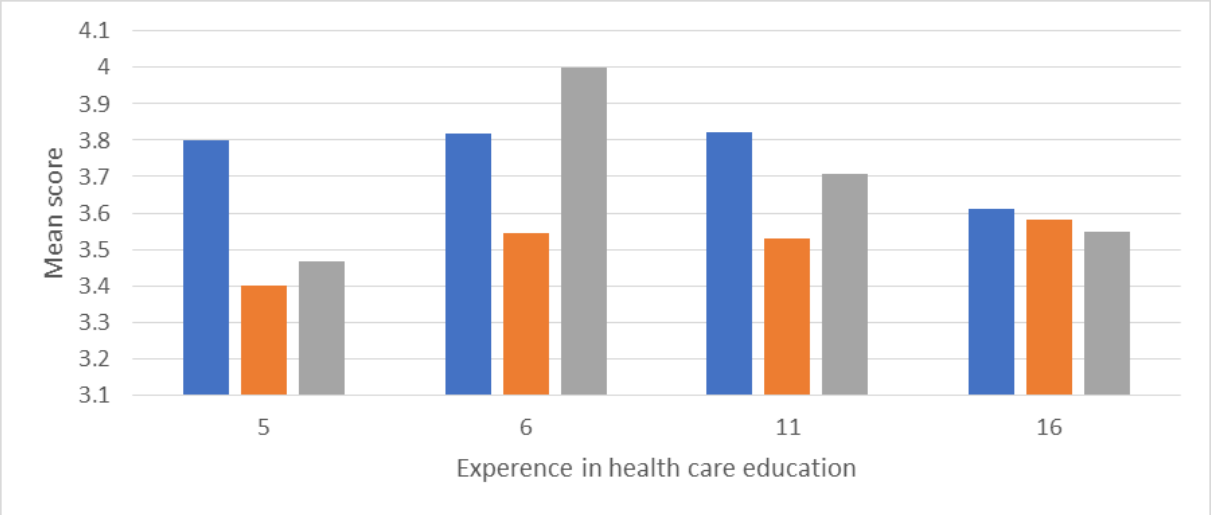
Graph I compares the experience in health care education wise the MHPE program increased my understanding of educational theories (blue), the level of confidence in implementing instructional design concepts into healthcare education practice enhanced (red) and impact methodology in curriculum developments (grey). ***Graph II*** compare the experience in health care education wise I utilize the concepts of educational evaluation to evaluate my educational programs (blue), the MHPE enhanced my capacity to instruct healthcare professionals (red), feedback provided by my colleagues concerning the modification I have instituted and observed enhancements in patient outcomes that was directly linked to the modification in health care education (grey),enhanced inter professional calibration and equipped me for leadership positions in health care education (yellow).

Discussion

This study evaluated MHPE graduates' perceptions of how the program influenced their educational and professional practices, leadership readiness, and collaboration in healthcare education. Consistent with international literature[4,5,6], participants reported moderate-to-high perceived improvements in knowledge, teaching capability, curriculum design, and inter professional collaboration. These findings reinforce the MHPE's role as a catalyst for developing skilled health professions educators capable of advancing institutional teaching quality and teamwork.

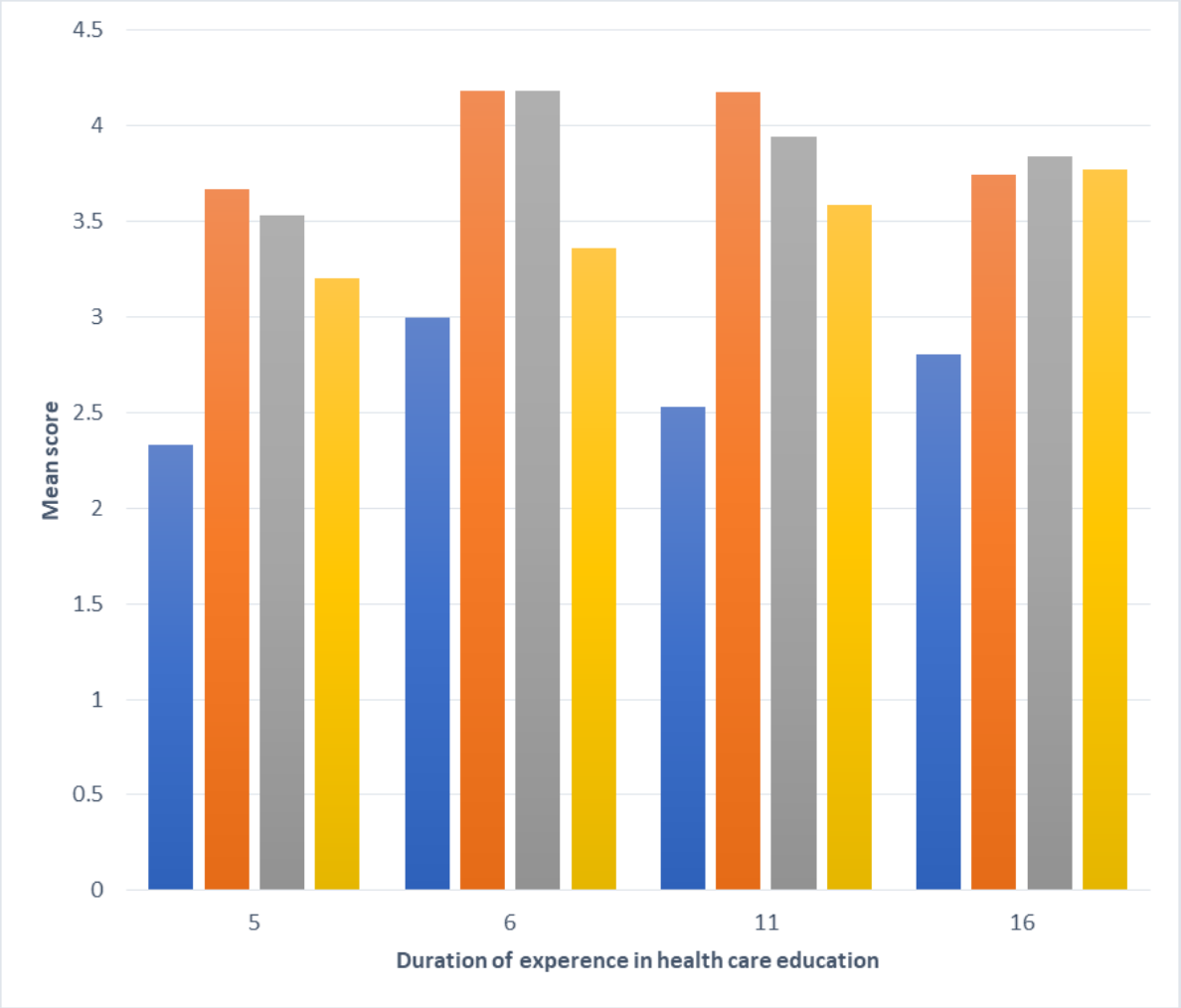
However, the consistently low ratings for the application of educational evaluation frameworks highlight a critical gap between conceptual understanding and application. Similar challenges have been noted in other contexts, where competing clinical demands, limited institutional support[4,6], and insufficient hands-on training limit the translation of theory into practice. Embedding authentic evaluation projects, mentorship in program evaluation design, and reflective practice exercises could bridge this gap.

Leadership preparedness emerged as moderate benefit, suggesting that while MHPE curricula introduce core leadership concepts, additional structured pathways—such as mentorship, leadership skills, exposure to governance, and targeted training in strategic leadership—are needed to translate learning into institutional influence[6]. Notably, mid-career professionals reported the highest perceived gains across multiple domains, indicating that career stage may influence receptivity and application of MHPE learning. Admissions policies could leverage this by balancing intake between early-career and mid-career educators to optimize institutional return on investment. The learning and teaching capabilities of early-carrier



Graph 1: **Comparison of mean scores by experience level**

Graph 1: Experience in years in health care education wise mean score of the MHPE program increased my understanding of educational theories (Blue), the level of confidence in implementing instructional design concepts into healthcare education practice enhanced (Red) and impact methodology in curriculum developments (grey).



Graph II: Experience in years wise mean score I utilize the concepts of educational evaluation to evaluate my educational programs (blue) , the MHPE enhanced my capacity to instruct healthcare professionals (red), feed-back provided by my colleagues concerning the modification I have instituted and observed enhancements in patient outcomes that was directly linked to the modification in health care education(grey),enhanced Inter-professional calibration and equipped me for leadership positions in health care education(yellow)

educators need to be enhanced. The application of knowledge among the mid-carrier educators needs to be emphasized and re-evaluated.

The study's reliance on a single institution and self-reported measures limits the generalizability and objectivity of findings. Future research should adopt multi-institutional, longitudinal designs incorporating objective performance metrics and patient care outcomes to validate and extend these results.

Conclusion

The MHPE program at STMU was perceived by graduates to enhance educational knowledge, teaching capacity, inter professional collaboration, and leadership readiness, though the consistent application of educational evaluation frameworks remains limited. To maximize program impact, three priorities are recommended: Integrate applied evaluation training through authentic projects using frameworks such as CIPP and Kirkpatrick; Strengthen structured leadership development with mentorship and exposure to institutional governance; Tailor support to career stage, particularly for early- and mid-career educators who may demonstrate the greatest gains.

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